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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SUN, SCOTT C

ART UNIT PAPER NUMBER

2182

DATE MAILED: 12/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/761,588

Applicant(s)

LIM ET AL.

Examiner

Scott Sun

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/20/04, 7/13/04 5/4/05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: "single pole single through" is commonly known as "single pole single throw". If this is not the applicant's intended meaning, then the specification should clearly redefine SPST to enable one of ordinary skill in the art to make and use the invention.

Appropriate correction is required.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "universal serial bus interface device" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate

changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claim 4 is objected to because it recites a "single pole single through" where "single pole single throw" is expected.
4. Claim 6 is objected to because of the following informality: applicant recites "the MCU... transforming the data... to a mobile terminal, receiving the data from the mobile terminal" seems to imply the MCU and the mobile terminal are two separate (disjoint) devices. However, according to applicant's drawings and detailed description, it is apparent that MCU is a part of the mobile terminal. More specifically, the mobile terminal comprises the MCU. The applicant's specification also seems to use "mobile terminal" and "a USB interface device" interchangeably to mean to same invention. For clarity and consistency, the examiner suggests that the claim language is changed to indicate that "the USB interface device" and "mobile terminal" are equivalent. Also see the examiner's objection to the drawings above. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 3 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Regarding claim 3, applicant recites "the device as recited in claim 1, wherein the communication line is a RS232C data line". Incorporating the details of claim 1, it reads as "a universal serial bus (USB) interface device having a switching function, comprising a dual interface means connected to an external device through a communication line, wherein the communication line is a RS232C data line...". The examiner asserts that while the specification mentions RS232C data line and USB data line in alternative using "or", there is no explicit detail that the two standards can be both used in the same embodiment of the invention. In fact, the drawings submitted only show USB standard being used in the embodiment of the invention. Therefore, it is unclear if USB and RS232C are both used in a single embodiment of the invention as implied by claim 3. The examiner suggests the applicant change the preamble to "a mobile terminal having a switching function..." in order to overcome the ambiguity in the claim language as well as the examiner's objection to the drawings above.

8. Regarding claim 4, where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written

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description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term "carkit" in claim 4 is used by the claim to mean "interface", while there is no definition for "carkit" in the English dictionary. "Carkit" or "car kit" is sometimes used to describe a vehicle speakerphone, which is clearly not applicant's intended meaning. Therefore, the term is indefinite because the specification does not clearly redefine the term. For the purpose of continuing prosecution, the examiner interprets carkit, based on the functions it performs, to mean USB connector.

9. The following rejections are made based on the examiner's best interpretation of the claims in light of the 35 USC 112 rejections above.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being obvious over Yoshida et al. (PG Pub #US 2002/0101515 in view of Kuba (US patent # 6,549,958)

12. Regarding claim 1, Yoshida discloses a universal serial bus (USB) interface device (system in figure 1b) having switching function, comprising: an image processing

means (image signal processor, CCD in figure 15) for obtaining external image data, digitalizing the image data (paragraph 225); a signal processing means (CPU in figure 15; paragraph 221) for processing the data, a memory means (RAM and memory card in figure 15) for storing or outputting the data according to control of the image processing means or the signal processing means (paragraph 228 and 229).

Yoshida does not disclose expressly a dual interface means. However, Kuba discloses a dual interface means (system in figure 1) connected to an external device through a communication line (USB line) for multi-switching data according to a microcontroller unit selection signal and a digital signal processor selection signal (column 3, lines 21-28). The examiner interprets switching between the host mode and terminal mode as switching between microcontroller and DSP. The examiner also notes that by switching between the two modes, Kuba accomplishes the same result as those cited by the applicant, namely, switching functionality of the camera depending on the device the camera is connected to.

Teachings of Yoshida and Kuba are from analogous art of digital cameras and specifically of external device communication. Therefore, it would have been obvious at the time of invention to combine Yoshida's and Kuba's teachings by adding the switching circuitry taught by Kuba into Yoshida's system for the benefit of optimizing processing of the camera when connected to different devices (column 1, lines 57-61).

13. Regarding claim 2, Yoshida and Kuba combined disclose the device as recited in claim 1, and Yoshida further discloses wherein the communication line is a USB line (figure 15, USB connector)

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14. Regarding claim 5, Yoshida and Kuba combined disclose the device as recited in claim 1, and Yoshida further discloses wherein the image processing means includes: a camera module (figure 15, CCD module and controller) for obtaining external image data and outputting the image data (paragraph 225 and 226); an image processor (figure 15, image signal processor and voice processor) for receiving the image data, processing the image data, receiving the audio data, processing the audio data and outputting the processed data to dual interface means (paragraph 223).

15. Regarding claim 6, Yoshida and Kuba combined disclose the device as recited in claim 1, and Kuba further discloses wherein the signal processing means includes: a USB transceiver (figure 1, USB interface) for receiving the data from the dual interface means, transforming the received data into logic level signal, transferring the data to an MCU (RISC-CPU in figure 1), and transferring the data from the MCU to the dual interface means. The MCU for receiving the data from the USB transceiver, transforming the data into adequate format to a mobile terminal (camera itself), receiving the data from the mobile terminal, transforming the data into the adequate format to the USB transceiver and activating the DSP selection signal and MCU selection signal (page 3, lines 42-45). The examiner asserts that a person of ordinary skill in the art at the time of invention can readily recognize that an USB interface performs the receiving and transferring functions and a CPU performs the transforming function in a digital camera.

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16. Regarding claim 7, Yoshida and Kuba combined disclose the device as recited in claim 1, and Yoshida further discloses wherein the external device is a personal computer (paragraph 233).

17. Regarding claim 8, Yoshida and Kuba combined disclose the device as recited in claim 1, and Kuba further discloses wherein the external device is a printer (column 3, lines 58-62).

18. Regarding claim 9, Yoshida and Kuba combined disclose the device as recited in claim 1, and Kuba further discloses wherein the external device is an external USB memory (column 3, lines 62-63).

19. Regarding claim 3, Yoshida and Kuba do not disclose expressly using RS232C. However, the examiner asserts that a person of ordinary skill in the art at the time of invention can readily implement circuitry to use RS232C wired communication standard in the system disclosed by Yamauchi and Kuba for the benefit adapting to different protocols.

20. Regarding claim 4, Yoshida and Kuba combined disclose the device as recited in claim 1, and Kuba further discloses wherein the dual interface means includes: a carkit connector (figure 1, ULNB I/F).

21. Yamauchi and Kuba combined do not disclose explicitly using two dual SPST switches. However, the examiner asserts that a person of ordinary skill in the art at the time of invention would readily recognize a dual SPST switch could be used to perform the electrical switching functions of the combined system of Yamauchi and Kuba.

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22. Regarding claims 10 and 11, Yoshida and Kuba combined disclose the device as recited in claim 1, but do not disclose explicitly wherein the external device is a keyboard or audio component. However, a person of ordinary skill in the art at the time of invention can readily recognize a plurality of devices, including keyboards and audio components, can be connected to the combined camera system disclosed by Kuba and Yoshida through the USB port for the benefit of adding functionality to the camera.

Conclusion

23. Other publications are cited to further show the state of the art with respect to digital cameras with USB interface. Refer to form 892, "Notice of References Cited", for a complete list of relevant prior arts cited by the examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Sun whose telephone number is (571) 272-2675.


The examiner can normally be reached on M-F, 10:30am-7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim N. Huynh can be reached on (571) 272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SS – 11/29/2005



KIM HUYNH
PRIMARY EXAMINER
12/2/05